INTERNATIONAL SEARCH REPORT



A. CLASSIFICATION OF SUBJECT MATTER IPC 7 F22B1/08 E21B43/24 C02F1/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) IPC 7 F22B E21B C02F F01K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

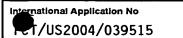
Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUM	ENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2003/127226 A1 (HEINS WILLIAM F) 10 July 2003 (2003-07-10) paragraphs '0014! - '0025!, '0043! - '0056!; figures 4,5 abstract	1-34
A,P	US 6 733 636 B1 (HEINS WILLIAM F) 11 May 2004 (2004-05-11) column 4, line 17 - column 6, line 67; figures abstract	1-34
Α	US 4 418 651 A (WYATT ET AL) 6 December 1983 (1983-12-06) column 5, line 22 - column 7, line 5; figures 1,4 abstract	1-34
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Further documents are listed in the continuation of box C.	Patent family members are listed in annex.
Special categories of cited documents: A* document defining the general state of the art which is not considered to be of particular relevance E* earlier document but published on or after the International filing date L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) O* document referring to an oral disclosure, use, exhibition or other means P* document published prior to the international filing date but later than the priority date claimed	 *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&* document member of the same patent family
Date of the actual completion of the international search	Date of mailing of the international search report
27 May 2005	06/06/2005
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2	Authorized officer
NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Zerf, G

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		Fe1/US2004/039515						
C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT								
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.						
A	US 4 730 577 A (HOUGHTON ET AL) 15 March 1988 (1988-03-15) column 2, line 19 - line 51 column 2, line 63 - column 3, line 55; figure abstract	1-34						
P,A	US 6 675 747 B1 (GOIDICH STEPHEN J ET AL) 13 January 2004 (2004-01-13) the whole document	1-34						

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Information on patent family members

International Application No VI /US2004/039515

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 2003127226	A1	10-07-2003	US US CA	6733636 B1 2005022989 A1 2307819 A1	03-02-2005
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